

THE A.P.R.O. BULLETIN

The A.P.R.O. Bulletin is the official copyrighted publication of the Aerial Phenomena Research Organization Inc. (A.P.R.O.), 3910 E. Kleindale Rd., Tucson, Arizona 85712, and is issued every other month to members and subscribers. The Aerial Phenomena Research Organization Inc., a non-profit corporation established under the laws of the State of Arizona and a federally recognized scientific and educational tax-exempt organization, is dedicated to the eventual solution of the phenomenon of unidentified flying objects. Inquiries pertaining to membership and subscription may be made to the above address.

VOL. 21, NO. 2

TUCSON, ARIZONA

SEPTEMBER-OCTOBER 1972

FLYOVER AT VIENNA, AUSTRIA

Discs Over Brazil

The following report is forwarded by Field Investigator Mrs. Irene Granchi of Rio de Janeiro:

Shortly after midnight on August 11, Mrs. Amana Domenech was sitting in the living room on a settee by a large open window smoking a cigarette before going to bed. Her husband, Dr. Francisco Domenech, was in the bedroom. Mrs. Domenech was observing the clouds and wondering if the sky would be clear so that she could go to the beach the next day. The Domenech home is in Gavea, Guanbará State, near Rio de Janeiro and situated almost next door to the P.U.C. (Catholic University).

As she watched the sky, Mrs. Domenech noticed an orange light coming from behind a cloud and thought idly, "Good! The moon's coming out and I can go to the beach tomorrow." As she continued to watch, not the moon, but a large metallic object came out from behind the cloud, larger than a Boeing aircraft, a squashed, roundish shape, in fact, elliptical. It appeared to be oscillating, like a dry leaf. Then it stopped and stood perfectly still over the P.U.C. grounds. Two small objects then came out from beneath the larger object and started an oscillating flight around the "parent object".

The large disc was silvery-metallic in color but had a large orange phosphorescent band crossing it in the middle from side to side. Within the band Amanda thought she saw oval portholes of a lighter color with 3 or 4 shapes moving behind them— but is not positive on this point. The large disc emitted a broad, bluish beam of light that fell directly onto the room where Mrs. Domenech was sitting and she felt it was directed at her.

The smaller objects did not emit any light, only the large one did and it seemed to be in a methodical manner. The light appeared as bright as that from an acetylene torch and nearly blinded her so that she had to turn her face away. When she did this, the light was turned off. Then, after a minute or so, it would turn on again, gradually, and become as bright as before.

(See Brazil - Page Four)

The South African Flap

Mr. Frank D. Morton, APRO's Representative for South Africa, has forwarded a collection of news clips dealing with the 1972 flap in his country which appears to have commenced much earlier than June 26 when the much-publicized UFO shooting took place. However, at this writing we will present the June 26 case only as Mr. Morton is currently attempting to get more first-hand information on the other cases. The following is an account by Mr. Bennie Smit, of Braeside farm, near Fort Beaufort.

"At 9 a.m. one of my colored laborers reported that he had seen smoke near the krans, and then a big ball of fire. I went with him to the spot. Sure enough, there was a fiery ball, hovering at tree top height. It was about two and a half feet across, with flames shooting out.

"My man shouted and it moved sideways for about 300 yards and disappeared behind a big bush. All that was left was a smoke trail. Later it reappeared from behind a tree and kept changing color. When I first looked it was a big red ball but now it was green and it suddenly changed to a yellowish-white.

"I was shocked and felt that the thing could be dangerous; I hurried back to the house to get my 0.303 rifle and phoned the police. I went back to the spot and fired several shots. I am sure my eighth shot hit it, as I heard a thud. It moved up and down, and disappeared behind the trees again."

At about 10 a.m. Warrant Officer P.R. van Rensburg, the Fort Beaufort station commander, and Sgt. P. Kitching arrived. WO VanRensburg continues the story:

"After Mr. Smit and Sgt. Kitching had fired a couple of shots in the direction of the ball of fire, we saw a round, black shiny object about two and a half feet in diameter emerge from behind a tree. It slowly disappeared from sight and then reappeared. Shots had no effect and when anybody approached it shied away behind the bushes."

Mr. Smit then moved into the thick bush. He carried a stick with a white handkerchief tied to it so that the police could keep track of his movements. Mr.

(See Flap - Page Three)

Alexander G. Keul, APRO's Representative for Austria, has forwarded the results of his investigation of the sighting of an object by witnesses in two different locations.

At about 8:50 p.m. CET, councillor Friedrich Miksa was driving along Speisinger St. in Hietzing (the 13th district of Vienna). Miksa, driving his new Peugeot 204 was accompanied by his wife and they were on their way home to Liesing (district 23). They had just crossed the railway track of the Hetzendorf branch line and were approaching the fork with Feldkellergasse when Mr. Miksa spotted a luminous object in the southwest. He slowed his car to about 15 miles per hour and continued to watch, as did his wife.

We now quote Mr. Miksa: "It was a quiet evening with good visibility, no wind, no clouds. Suddenly I saw that flying body. That's no plane, I thought. But what was it really? It appeared roundish and clearly outlined, a bright yellowish orange. It swept across the sky in a parabolic trajectory towards the northeast. I had an eerie feeling— a speed like that looks quite impossible. One and a half seconds later it moved behind some rooftops of Speisinger St. and was gone."

Although the observation was very short, Mr. Keul investigated the case thoroughly, and Mr. Miksa tried very hard to remember even minor details. The UFO, Miksa said, was more luminous in the center and with a distinct outline. He compared its light to a "Peugeot halogen fog-headlight", a very luminous yellowish orange color. It did not flicker and was "brighter than a neon street light and dimmer than a spotlight." He said it was not blinding, the whole surface was emitting light steadily and "you could look right into it."

The sliding top of the car was open at the time of the sighting and no sound was heard. Miksa, who had command of an anti-aircraft platoon in World War II and had some experience estimating distance, altitude and speed of objects in the sky, said the object was at an elevation of 30 degrees and at a distance of 4 or 5 miles. He estimated the altitude at between 3,000 and 4,500 feet and the speed at between mach 5 and 6. He said its size was that of a small dirigible and that its

(See Austria - Page Three)

THE A.P.R.O. BULLETIN

Copyright 1972 by the
AERIAL PHENOMENA
RESEARCH ORGANIZATION, INC.

3910 E. Kleindale Road

Tucson, Arizona 85712

Phone: 602-793-1825 and 602-326-0059

Coral E. Lorenzen, Editor

Norman Duke, Richard Beal,

Brian James, Jacqueline Joseffer, Artists

A.P.R.O. STAFF

International Director L. J. Lorenzen
Assistant Director Richard Greenwell
Secretary-Treasurer Coral E. Lorenzen
Membership Secretary Madeleine H. Cooper
Staff Librarian Allen Benz

CONSULTING PANELS

Biological Sciences

Anatomy Kenneth V. Anderson, Ph.D.
Biochemistry Vladimir Stefanovich, Ph.D.
Biology Robert S. Mellor, Ph.D.
Biophysics John C. Munday, Ph.D.
Exobiology Frank B. Salisbury, Ph.D.
Medicine Benjamin Sawyer, M.D.
Microbiology Mohamed A. Athar, Ph.D.
Physiology Harold A. Cahn, Ph.D.
Zoology Richard Etheridge, Ph.D.

Physical Sciences

Aeronautics Rayford R. Sanders, M.S.M.E.
Astronomy Leo V. Standeford, Ph.D.
Astrophysics Richard C. Henry, Ph.D.
Civil Engineering James A. Harder, Ph.D.
Computer Tech Vlastimil Vysin, Ph.D.
Elec. Engineering Kenneth Hessel, Ph.D.
Elec. Engineering Brian W. Johnson, Ph.D.
Elec. Engineering Lorin P. McRae, Ph.D.
Geochemistry Harold A. Williams, Ph.D.
Geology Phillip Seff, Ph.D.
Metallurgy Robert W. Johnson, Ph.D.
Metallurgy Walter W. Walker, Ph.D.
Oceanography Dale E. Brandon, Ph.D.
Optics B. Roy Frieden, Ph.D.
Physics Michael J. Duggin, Ph.D.
Radiation Physics Horace C. Dudley, Ph.D.
Seismology John S. Derr, Ph.D.

Social Sciences

History David M. Jacobs, M.A.
Linguistics P.M.H. Edwards, Ph.D.
Philosophy Robert F. Creegan, Ph.D.
Philosophy Emerson W. Shideler, Ph.D.
Psychiatry L. Gerald Laufer, M.D.
Psychiatry Berthold E. Schwarz, M.D.
Psychology R. Leo Sprinkle, Ph.D.
Religion Robert S. Ellwood, Ph.D.

REPRESENTATIVES

Argentina Guillermo GalnzaPaz
Australia Peter E. Norris
Austria Alexander G. Keul
Belgium Edgar Simons
Bolivia Fernando Hinojosa V.
Brazil Prof. Flavio Pereira
Britain Anthony R. Pace
Ceylon K.P.K. De Abrew
Chile Pablo Petrowski S.
Colombia John Simhon
Costa Rica Rodolfo Acosta S.
Cuba Oscar Reyes
Czechoslovakia Jan Bartos
Denmark Erling Jensen
Dominican Republic Guarlonix Flores L.
Ecuador Col. Raul Gonzales A.
Finland Kalevi Hietanen
France Richard Niemtzow
Germany Capt. William B. Nash
Greece George N. Balanos
Guatemala Eduardo Mendoza P.
Holland W.B. van den Berg
Iran Lewis C. Shepley
Ireland Martin Feeney
Italy Roberto Pinotti
Japan Jun'ichi Takanashi
Lebanon Menthir El Khatib
Malta Michael A. Saliba
Mexico Roberto Martin
New Guinea Rev. N.C.G. Crutwell
New Zealand Norman W. Alford
Norway Richard Farrow
Peru Joaquin Vargas F.
Philippine Republic Col. Aderito A. deLeon
Puerto Rico Sebastian Robiou L.
Rumania Tiberius A. Topor
Sierra Leone Bernard J. Dodge
Singapore Yip Mien Chun
South Africa Frank D. Morton
Spain Antonio Aparicio D.
Sweden K. Gosta Rehn
Switzerland Dr. Peter Creola
Taiwan Joseph March
Tasmania William K. Roberts
Thailand Donald A. Rode
Trinidad Eurico Jardim
Venezuela Askold Ladonko
Yugoslavia Milos Krmelj

Newswires, newspapers, radio and television stations may quote up to 250 words from this publication, provided that the Aerial Phenomena Research Organization, Inc. (or APRO), Tucson, Arizona, is given as the source. Written permission of the Editor must be obtained for quotes in excess of 250 words.

quoted as saying that he has no doubt that UFOs exist.

Inasmuch as members can obtain and read a copy of the *Enquirer* and the article is quite lengthy, we won't go into too much detail here. However, the readers may be interested to know that during their visit to South America in 1967, Mr. and Mrs. Lorenzen were entertained by Captain and Mrs. Pagani in their home and taken to the Navy Ministry and allowed to examine reports of UFOs in the Navy's files there. Both were very impressed with the thoroughness of Captain Pagani's investigations, and viewed many case files which included drawings rendered according to the witness's testimony.

At that time Captain Pagani discussed his personal opinions concerning UFOs. He did not, at the time, publicly admit that he felt the UFOs are craft from a source beyond earth, but did tell the Lorenzens that he felt the extraterrestrial hypothesis was the most likely explanation for the many cases he had personally investigated.

The *Enquirer* article mentions two quite interesting reports—one from Trancas in 1964 which involved a strange saucer-shaped glowing object 20 feet wide and 6 feet deep which hovered about 200 yards from the homes of three wives of Argentinian navy officers and a young boy. When one of the women approached the object a beam of red light shot out and burned her face. Pagani said that when he interviewed the physician who treated the woman the Doctor said he was baffled by what caused the burn.

Inasmuch as Argentinian officials have decided to make public their opinions at this time, the Lorenzens feel that this might be the right time to reveal that while in South America they conferred with a Captain of Air Force Intelligence and a Navy Admiral (they cannot disclose their names or countries at this time) who expressed precisely the same opinion concerning UFOs as has Captain Pagani. When the time comes that these individuals notify us that they are ready to make their opinions known the Lorenzens will identify them.

Dr. Hynek's Book

The long awaited book by Dr. J. Allen Hynek is in its second edition and selling well. We urge all APRO members to obtain, or at least read a copy as it not only presents Dr. Hynek's version of the Air Force involvement in UFO studies (Dr. Hynek was the scientific consultant to the Air Force's Project Blue Book for 20 years) but defines and discusses the whole UFO question and proposes methods of investigation and study. Dr.

(See Hynek - Page Three)

Who And Where Is Steve Cleveland?

At approximately 2:30 a.m. on August 25, 1972, a young man who identified himself as Steve Cleveland, a carnival worker of Eau Claire, Wisconsin, called WLS Radio in Chicago, Illinois and talked to Gil Gross.

Cleveland claimed that he was sitting on his suitcase outside of Fort Atkinson, Wisconsin, hoping to hitch a ride north to Eau Claire. The essence of his story was that a huge ship came down in the adjacent field, two beings about five feet tall got out, took soil samples, got back into the ship which then lifted off. He claimed that he watched the object for fifteen minutes.

APRO has been attempting to find this Mr. Cleveland, if he does exist. There is the possibility that someone heard of the Faltersack case and decided to pull a little

hoax. The only Cleveland listing in the Eau Claire area is not an assigned number so we ran into a dead-end there. Inquiries in the area were made to schools and colleges but with no results.

It is possible that if Steve Cleveland exists at all, he may be a young man who moves about from time to time and that Eau Claire may be where he originated. Any member who has any idea of how to locate Mr. Cleveland should get in touch with Headquarters as soon as possible. Although only a one-witness case the details indicate that a thorough investigation should be undertaken nevertheless.

Pagani Talks About UFOs

The October 29, 1972 issue of the *National Enquirer* carries a full-page article dealing with South American, and especially, Argentinian UFO reports. Captain Omar Pagani, the official UFO investigator for the Argentinian Navy is

Hynek

(Continued from Page Two)

Hynek is now Head of the Department of Astronomy at Northwestern University.

The book, entitled "The UFO Experience: A Scientific Inquiry", was reviewed in *The APRO Bulletin* for May-June, 1972. *Science*, the journal of the American Association for the Advancement of Science, recently ran a book review (August 25, 1972) by Dr. Bruce C. Murray, an astronomer at the California Institute of Technology. Dr. Murray was quite sympathetic towards Dr. Hynek's work, although he was obviously unacquainted with the subject except in a superficial manner. He concluded: "...Hynek has won a reprieve for UFOs with his many pages of provocative unexplained reports and his articulate challenge to his colleagues to tolerate the study of something they cannot understand."

If local public libraries or book stores cannot or will not obtain the book, it can be ordered directly from the publishers for \$6.95 at the following address: Henry Regnery Co., 114 West Illinois Street, Chicago, Ill. 60610.

Austria

(Continued from Page One)

inclination toward the horizon was about 20 degrees— somewhat tilted— and it remained constant during the sighting.

Miksa arrived at home at 9:05 p.m. CET (Central European Time), called the CMS Hohe Warte where he was told that they had heard of the object and that it was a meteor. Miksa completely rejected this theory. He was interviewed on August 22 by Mr. Keul who found him cooperative, experienced and a highly reliable witness.

The foregoing report arrived at APRO Headquarters on August 28th and on September 29th the corroborating sighting, also investigated by Mr. Keul, arrived at Headquarters. The following are the salient points of interest:

Head forester Reinhold Hering from Klausen-Leopoldsdorf in the Vienna Woods and sportswoman Erika Graef had left Hering's Volkswagen car at about 8:45 p.m. and were walking along a field path at Mitterriegel in the Agsbach Valley towards a stand to carry away a roebuck (male deer) shot by Mrs. Graef. It was a calm, starry night with excellent visibility. At about 8:47 p.m. Mr. Hering spotted a brilliant light behind a wooded hillock to his right. He called Mrs. Graef's attention to it and they watched as it came out from behind a jaw, much too slowly for an aircraft. Hering looked through his binoculars but it was much too bright for him to look at. It passed

over Agsbach Valley in a horizontal trajectory and was in sight for more than 10 seconds. Hering described it thusly: "It was oval and dark, but it had three lights — two red-orange lights and an extremely brilliant one to the right. The brilliant light seemed to come from a groove, like some kind of all-round headlight. The red lights were not really lights, but red panes. No aircraft light would look like that." (Klausen-Leopoldsdorf is directly below the glidepath of all planes approaching Schwechat from the west, so Mr. Hering is familiar with aircraft.)

Hering continued: "And it was brilliant. If you look into a halogen fog-headlight with binoculars at night it will give you the same impression— a calm and steady light. It was the brilliance that caught my attention— otherwise I'd never have looked at it." (The newspapers had not published Hering's comparison of the light with a halogen fog headlight, and Miksa's sighting had not been publicized, yet they both described the light in the same way).

During his field investigation on August 29, Mr. Keul used a quadrant to find out the height of the object's trajectory. Mr. Hering had some experience in estimating distances at night; during World War II he was in a special division for night-fighting. He said the object was about 2 miles away from him. Keul measured an angle of about 5 degrees, then estimated the object must have been between 450-600 feet altitude. Mr. Hering estimated the diameter of the object to be between 75 and 100 feet. Keul asked him to compare its apparent size with that of an Austrian schilling at arm's length and Hering said a half schilling would have covered it. A trigonometrical analysis after the interview indicated that Hering's estimate of 75-100 feet coincided with the other data.

The two witnesses watched until the object moved behind a mountain ridge to the northeast, which is about 1800 feet in height. Estimating the distance between the points where the object appeared and then disappeared, (about a mile), and the length of the observation Keul concluded that the object had been traveling between 600-900 feet per second.

After the sighting the witnesses drove to Hering's home in Kleindrottenbach Valley where Hering called the rural police. Newsmen arrived along with the police and consequently many conflicting and inaccurate reports were published in the press.

When Mr. Keul drew the flight path of Hering's object on a map of Lower Austria and Vienna he found that it was almost a direct continuation of the Miksa object's trajectory to the west.

Keul arrived at the conclusion that on August 3, 1972, at 8:47 p.m., an unknown object of physical reality flew

over the Vienna Woods from Altlenbach to Kaltenleutgeben. In the first phase of its course its flight was parallel to ground level and its speed below general aircraft speed. Over Sulz or Kaltenleutgeben its rate and altitude suddenly increased, the object's trajectory bent to the northeast and in a few seconds it rushed over Perchtoldsdorf, Liesing, Meidling and disappeared. Reinhold Hering looked at the object from the southwest and later described the upper part with two red lights. Friedrich Miksa first saw it from the northeast, looking at the object's bottom. He observed the same kind of "halogen fog headlight" but less brilliant. Perhaps he misjudged the object's diameter— the short duration of his observation could account for such an error.

Both Miksa and Hering refused the explanations that the object was either a meteor or an aircraft. In reconstructing the details of the sighting the observers probably saw a domed disc with red lights on either side of the top part and a yellow lighted underside.

Flap

(Continued from Page One)

Smit: "Suddenly I saw it about 20 yards away, now greyish-white. I fired two quick shots, but with a loud whirring noise it veered off over the tree tops, cutting a pathway through the foliage. It disappeared quickly from sight."

According to the *Pretoria News* of July 5th, imprints were left on Mr. Smit's farm, which is located about 9 miles out of Fort Beaufort. A Mr. C.S. Kingsley, a lecturer in the department of Geology at Fort Hare University was quoted as saying that the imprints were "definitely not animal or human". Mr. Kingsley, who was the government geologist in the 1967 Antarctic Expedition said he had noted that there were little fine parallel streaks in one part of the imprint at Braeside (Smit's farm) and considered that the nature of these and also the surface texture of the imprint, suggested metal rather than something soft and fleshy as the streaks were clearly defined.

The depth of the imprint was another factor in evaluating what had made it. The soil is very hard clay and WO P. van Rensburg had told Kingsley that when police had tried to make an imprint with their boots the footprints left hardly any impression at all.

The imprints themselves are round, 10 millimetres deep (.393 inch) at the centre but getting shallower toward the perimeter of the imprint, as if a spherical object had made them. Various ridges arranged about the imprint indicate the artificiality of the object which made them.

Personal contact was made with Mr.

(See Flap - Page Four)

Flap

(Continued from Page Three)

Smit by Mr. Morton during which time he elicited some interesting information: The object seemed unperturbed by the rifle fire except for the eighth shot but appeared to respond to the human voice and the proximity of people. In either case it would take evasive action.

The smoke trail it left was a greyish-white in color. Mr. Smit said that the trees and bushes parted for the UFO as it sped away. He was adamant that no air blast caused this, so it appears that some type of force field may be associated with the object. It left no burned traces although it was originally a ball of fire and in close proximity to foliage.

The object was seen for almost four hours and Mr. Smit's constant companion, his dog, was missing during the sighting.

Brazil

(Continued from Page One)

This series of events had the odd effect of making Mrs. Domenech feel irresistibly drawn to the object and she actually held onto the back of the seat of the settee. She said she felt as though she was being hypnotized and each time she tried to call to her husband she simply could not get any sound out.

She later estimated that the beam was turned on and off five times, so that her total observation by herself amounted to approximately 10 minutes. She sat and watched as the two smaller objects went up under and apparently into the large disc, and the light went off for the last time. At this point Dr. Domenech came into the room in time to see the large object beginning to move off, pulsating and oscillating. When the light stopped pulsating the object itself began to oscillate. In his statement to Mrs. Granchi Dr. Domenech said that the object flew forward, then backward, forward again, quite slowly and finally was lost to sight beyond a gap behind Sugar Loaf mountain (toward Niteroi).

Mrs. Domenech described the object as beautiful to look at and apart from a smarting sensation in her eyes which lasted a day or two, she suffered no other after-effects.

The Catholic University, over which the object hovered, houses some of the most sophisticated scientific equipment in Brazil and nearby is located the National Observatory.

Dr. Domenech stated that he had not believed in UFOs prior to his own experience. He is an engineer of Spanish birth now employed in the construction of the large mineral port in Mangaratiba, State of Rio.

At the close of the report Mrs. Granchi says that people who have no knowledge of the UFO subject sometimes ask: "They never appear in the center of large cities, not to people of standing. Why?" The Domenech case is an illustration of many which put the lie to that assumption.

Trio Observe Object In Colorado

Mr. and Mrs. Ronald Ludwig and their 12-year-old daughter Fawn were driving home at 9:20 p.m. on Wednesday, September 13, 1972, about 5 miles south of Burlington, Colorado, when Mrs. Ludwig gradually realized that a diffuse light to the west of them was not a reflection. At first it looked like a fluffy cloud just above the horizon, dimly lighted, white, and round or slightly oblong in shape with indefinite edges.

The night was essentially clear and calm, temperature about 55 degrees Fahrenheit, stars clearly visible but no moon. The light followed them for about a mile or more as they drove south, then turned the corner with them as they turned west. Up to this time, it had been pacing them at about 50 miles per hour. Mr. Ludwig saw it for the first time as he turned the corner; Mrs. Ludwig and Fawn watched it constantly from then on, but Mr. Ludwig could not because he was driving.

Shortly after they turned the corner, the light crossed in front of them heading southwest, parallel to the horizon. When it was about one to one and a half miles south of the road it came down near the ground and lit up very brightly. At this point, it looked round and solid, about the size of a small house and was bright enough to light up the land around it. In this position it appeared stationary for three or four minutes, then suddenly appeared about 45 degrees above the horizon, perhaps 1000 feet above the ground, the apparent size of the full moon and just as bright, with a cross-shaped shadow on its surface. It stayed up in this position for about one or two minutes, then departed to the southwest, apparently sloping down toward the horizon. They could not tell if it slowed down or stopped in the distance near the ground.

When they turned south into their driveway, a bright mercury vapor yard light made it difficult to see the object. They hurried into the house and upstairs to look out a window, but when they got there, the light was gone.

There were no physical effects on the observers or on any animals. The car radio was not on. The car itself was not affected. A few days later, the sheriff, to

whom the incident was reported, flew over the corn fields in the area of the ground track of the UFO, but no effects were observed. An apparent explosion in Burlington was reported to the sheriff just prior to the sighting, but subsequent investigation showed nothing. Other unknown lights were seen by other people after this sighting was publicized. The Stratton, Colorado, town marshall followed a light in the night sky on September 18, but no sightings were as close as that of the Ludwigs.

From his experience as a surveyor in the Army, Mr. Ludwig is confident of his distance and angular estimates, and is sure that the object could not be a misinterpretation of a conventional object. Before the sighting, Mr. and Mrs. Ludwig were sympathetic to the possibility of the existence of UFOs. Now they are convinced that UFOs exist in some very real sense.

The staff would like to thank Dr. John S. Derr, APRO's Consultant in Seismology for taking the time and effort to fly his private plane to Burlington to interview the Ludwigs.

Campos Soccer Case

The July-August issue of the *Bulletin* contained a brief, preliminary report based on press clippings of a sighting of UFOs over a soccer stadium in Campos, Brazil, at 10 p.m. on the 26th of July. The following is added detail supplied by Field Investigator Mrs. Irene Granchi after interviewing some of the principal witnesses.

Aldir Ramos Rangel, 18 of the *Americano* soccer team said that it was mid-game at Goitacas Stadium (not Godofredo Cruz Stadium as previously reported) when eight objects which were dark, solid, and elliptical in shape with varied-colored fire coming out of them flew across the sky from north to south. They were observed for from 10 to 15 minutes before they went out of sight. Aldir emphasized that the objects were *not* discs, but rather round-elongated in shape. Other people standing with Aldir were frightened by the spectacle.

Mr. Airton Arantes Rangel, 20, was in a bar near his house when he and others saw the UFOs. However, unlike Aldir, Airton claims that the objects were a bright orange and that they pulsed rapidly.

Oswanir Barcelos, President of the *Americano* soccer club and manager of the Coca-Cola company in Campos was at the stadium also, in the company of his family. According to his testimony, only one object was seen, "a brightly lighted rounded object with colors ranging from orangey red to bluish." He said it travelled from north to south in the direction of

(See Campos - Page Five)

Campos

(Continued from Page Four)

Atafona and the whole sighting lasted about 40 minutes although he did not look all of the time, because of his concern for the game. However, he did note that the 800 or so people on his side of the stadium were watching the sky.

Another of the witnesses was Mr. Osorio Peixoto de Silva, a reporter for the local newspaper, "A Noticia". According to him, some of the players stopped playing to watch several objects which flew from west to east and were out of sight after two minutes.

Dr. Benedito Rubens, a labor lawyer in Campos probably gave the most detailed account of what he saw. He claimed that a young child near him called his attention to a luminous, squarish object of indefinite color, with transparent-appearing outer portion. It disappeared at first behind a cloud, then in the distance. He said he thought the object could have been photographed but the photographers covering the game were in an area of the stadium where they did not have a view of the sky. This squarish object, said Dr. Rubens, was followed by "ingots" (rectangles) of light.

According to Dr. Rubens there was no truth in the reports that the game was stopped and that the radio announcer started to describe the UFO rather than the game. However, there is good indication that many people in the stadium did see the spectacle in the sky above. Apparently Mr. Barcelos saw the large object but in his preoccupation with his team he failed to notice the lighted objects which followed it across the sky.

Earlier in the evening of July 26, at Atafona, Mrs. An' Augusta Rodrigues, her 15-year-old niece Maria Regina Cordeiro and their driver, Manoel Machado witnessed a strange sight. At 5:30 p.m. they were on their way to Barcelos (which is a 1/2 hour drive from Campos) by car when she spotted a round, dark hovering point at about 60 degrees elevation. She told the driver to stop the car and they watched as other dark dots began to appear from all parts of the sky, approaching the first and largest dot. The smaller objects kept coming until there was one big dark spot in the sky. Then, suddenly they rearranged into two Vs, one inside the other, vertically placed. Mrs. Rodrigues at first thought they must have been ducks, as did the driver, but realized that couldn't be the case as the objects were not moving a bit—they just hung there in the sky.

The V formation did not last long; the dots gathered again in a large group. Mrs. Rodrigues decided that they should move on, and just before they departed the objects had re-grouped to form two large "spots". Clouds had started to gather so

the little party decided to continue to Barcelos, hoping to be able to view the sight through binoculars when they arrived there. They made another stop to look and saw that something like smoke was beginning to hide the dots from view. When she arrived home Mrs. Rodriguez called her other servants and all of them watched the large black spot in the sky. It did not move, but grew. By this time an hour and a half had passed and the time was 7 p.m. Mrs. Rodriguez went into her home and came out intermittently to look at the strange "cloud". At 9 p.m. the object (or objects) was still there only now pale and glowing and she went to visit a neighbor who lives close by. Both women saw it, but went inside. At 11 when Mrs. Rodriguez went home there was nothing more to be seen.

And so it seems that there was quite a bit of activity, not only in Campos on the night of July 26th, but in surrounding areas. Mrs. Granchi has also pointed out the fact that many sightings were reported in various parts of the world on that same date.

Strange Ground Markings In Norway

Richard Farrow, APRO's Representative for Norway, has forwarded the following interesting report which, although it does not involve airborne objects, deals with strange markings which investigators feel could only have been caused from above.

Large imprints on the shore of an uninhabited island in the Namsen Fjord, Kjolsoya (64 degrees, 25 minutes N, 11 degrees, 20 minutes E) have UFO specialists and people in Namdalen wondering. No one knows where the prints came from, or who or what could have made them.

The police are interested in the mystery and the UFO Society in Trondelag is also interested. Samples from the giant prints are allegedly being studied in a laboratory.

Everyone seems to agree that the giant prints, several meters in diameter, could not have come from the sea or the land, so that leaves one other avenue: the sky. The marks were found in the middle of June, 1972 by Ola Dahl from Bangsund, who owns one of the little summer houses on the island. "I can't understand it," he told the press, "We were on the shore at Whitsun (7th Sunday after Easter) but there were no marks there then. No boat could bring such a heavy object so far onto the land. It's impossible; the highest tide in the area where the prints are can't be more than one meter. On the land it is not possible to drive with anything as heavy as that which made the

imprints."

Dahl said he found the prints when he was on a Sunday trip to his summer house on the 14th of June. On the Friday before the prints were found there was a lot of interference on television sets in Bangsund. Finally the local transformer cut out but it was working again on Saturday morning.

Most of the prints on the shore are triangular but some are round. There are many similar prints within a definite area and the impressions are up to 30 cm (1 foot) deep, and rock-hard at the bottom. It is clear that the earth has been compressed and pushed up—and by very heavy objects.

The foregoing is from *Verdens Gang* of June 29th, and the same periodical, on the 6th of July carried the following information:

Samples of soil taken from the imprints were studied by experts from the Norwegian Technical High School and were found to contain radio-active particles. The radioactive substance is found only in the samples taken from the prints, not in samples from adjacent areas.

The August 17th edition of *Verdens Gang* carried a third article which described strange marks on cliffs in Namsen Fjord which appeared to have been made by an explosion. Some UFO researchers have connected the cliff marks with a lighted object which allegedly fell into the Fjord in 1959 and they speculate that it might have struck the cliff, then falling into the water of the Fjord. They also speculate that the prints on the shore may have been from another UFO which had come to investigate the accident of the first one. Plans were being made to drag the fjord with an echosounder and later divers will be used in the search.

Object Near Okinawa

Crewmen of a Trans World Airline (TWA) flight sighted an unidentified flying object traveling at what they said was "outer space speed" southeast of the Okinawa Prefecture at 11 a.m. (Greenwich time) on September 22, 1972.

A TWA spokesman said that Captain D. Shifflet and two crew members of TWA flight 745 en route from Okinawa to Bangkok saw the object appearing "as a brilliant bluish-white ball" while they were cruising at an altitude of 10,000 meters (roughly 35,000 feet) over the western Pacific about 560 kilometers (348 miles) southeast of Okinawa. Shifflet reported the object was travelling in a south-southeasterly direction and was best described as "appearing to be a space object as its passage was too fast for a comet although the main body was similar to that of a comet."

(See Okinawa - Page Six)

Okinawa

(Continued from Page One)

The object, which Shifflet said was "several times the magnitude of the brightest planet" was visible for approximately one minute and was seen also by Flight 985 of KLM Royal Dutch Airlines crew members.

At about the same time that the TWA sighting was made, two photos were allegedly taken by a Correspondence Course senior high school student at Okinawa.

Masahiro Asanuma, 21, said that he took the photos while at Young Boys Field Center in the center of Okinawa in the company of about 40 classmates, who also saw the object. The Japanese newspapers *Yomiuri Shinbun* and *Mainichi Shinbun* reported that the object made its appearance at 8:30 p.m. (Japanese time) in the form of a yellowish white belt of light. When the students spotted it they thought it was an airplane on fire, then someone yelled that it was a "flying saucer". Asanuma heard the commotion, aimed his camera (Cannon 50 mm Standard, Film SS) and clicked the shutter twice. Then he left the lens open for 5 or 6 seconds. The object finally disappeared into the cloud about two minutes later.

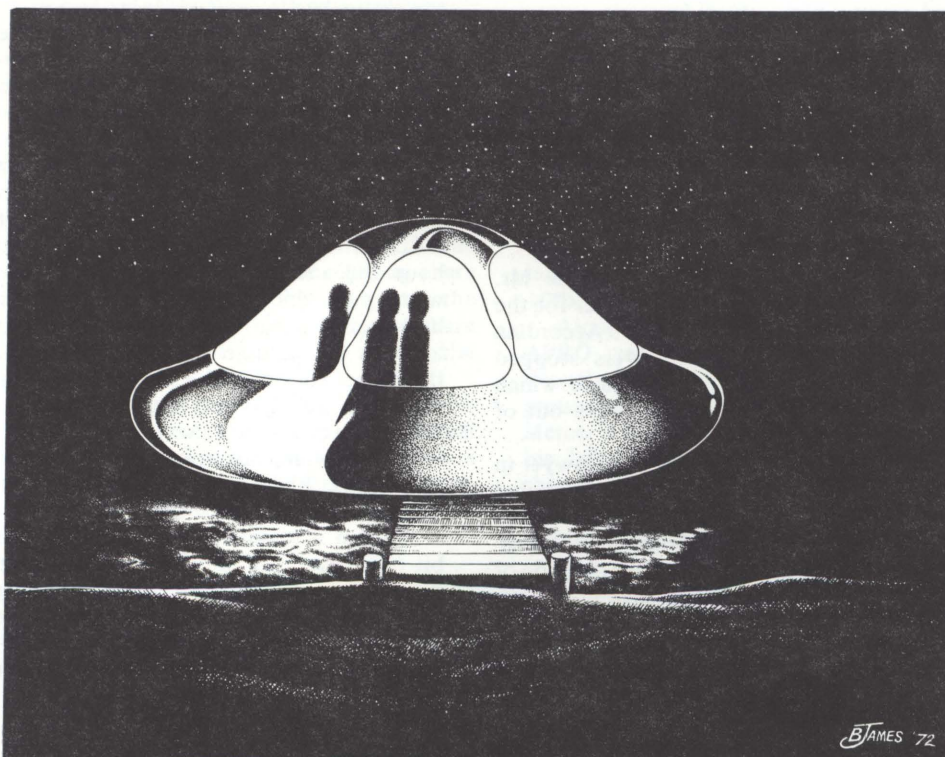
When the film was developed the first two shots showed nothing but the third shot showed an elongated, crescent-shaped blob.

This report was forwarded by Jun'ichi Takanashi, APRO's Representative for Japan. He has learned that other photos were taken on Okinawa and Japan (Fukushima Ken and Morioka City, etc.) which are similar to those taken by Asanuma. Mr. Takanashi is attempting to obtain negatives and any further information gained will be published at a later date.

The 1962 Occupants Case

The *National Enquirer* recently carried the account of Marilyn Chenarides and Mrs. Mildred Anderson of Grand Forks, North Dakota, who had an unusual experience while vacationing at their cabin on Lake Movil in northern Minnesota. Mrs. Lorenzen contacted Mrs. Chenarides and asked her cooperation in doing an artistic rendering of what they had seen. Mrs. Chenarides and her mother were most cooperative, and the drawing above by Staff Artist Brian James represents what they observed.

The exact date cannot be recalled but it was an August night in 1962 when Mrs. Anderson was doing her daughter



Marilyn's hair. Marilyn's younger brother, Roger, was in bed. Suddenly Marilyn became aware of an odd object outside, and both of the women stared out the window at a red glowing object which was hovering over the boat dock 50 feet from the cabin. The light from the object made the green painted boat dock appear brownish in color and the water a greenish-black. The side of the object toward the cabin had three windows which were lit up by a yellowish light and in two of the windows the women could see the silhouettes of three man-shaped beings. The object was hovering over the near end of the dock and appeared to be 8 feet high and 35 feet wide.

Both of the women felt that the "men" were watching them and after a few minutes of observation, Mrs. Anderson switched off the lights in the cabin, whereupon the lights on the object immediately went out. Mrs. Anderson then had an irresistible impulse to approach the object and threw open the door and started running down to the boat dock while her daughter, almost hysterical, screamed for her to come back. When Mrs. Anderson was halfway to the dock the object lifted slowly in the air, then moved off at an angle and was gone as suddenly as it had arrived.

The object, when first seen, seemed to appear out of nowhere. When it extinguished its lights when Mrs. Anderson turned off the cabin's lights, it was a dark blob over the dock so it may be assumed that the object could have been there for some time prior to Mrs. Chenarides' first glimpse of it, and it was called to her attention by the lights being turned on.

Mrs. Chenarides also described an inci-

dent which had taken place three weeks prior to the "occupant" sighting. She, her mother and father (Mr. and Mrs. Kenneth Anderson) and brothers Duane and Roger and the family dog Zipper were driving about 125 miles from their home to the cabin. When they were about 12 miles out of the town of Bagley the dog began to growl and Mr. Anderson spotted a large, green luminous object which appeared to be approaching them on a parallel course.

Mr. Anderson said the object wasn't going very fast and he slowed the car and the object passed them. It was approximately 70 away from their car and appeared to be about the height of a two-story building. It appeared as a long oval, yellowish-green in color and with a haze or fog around it.

After the object passed the Anderson car Marilyn and Duane watched it out of the rear window until it had passed out of sight. Duane said that they could see the thing hovering over a bare patch of land for a while, then it moved over a wooded area, made a half-circular maneuver and disappeared into the woods. They continued to watch but the object was not seen again.

Inquiries indicate that the Andersons are highly respected in their city and by friends and business acquaintances.

The above two cases are examples of the types of cases which may be lying dormant due to the disinterest and ridicule of the past. Since the June 24th article about APRO in the *New York Times* APRO has received several very interesting cases which are currently under investigation.

Flap In Florida

The east coast of Florida played host to some odd sky objects around the middle of September. The activity appears to have started on the 12th when an anonymous caller informed the *Palm Beach Post* that he had seen 11 unidentified flying objects pulsating with red, yellow, green, white and blue lights. The caller identified himself as "Smith" although admittedly that wasn't his name. He told the newspaper that after he watched them he called his neighbor who, along with his wife also viewed the objects. He then called the sheriff's office and a deputy was sent out to the Holiday Plaza Mobile Park where "Mr. Smith" lives. The deputy watched the things, then called the airport and asked if they had anything on radar. An FAA spokesman at Palm Beach International Airport said that "our man watched through binoculars but let's just say that as far as we are concerned those were stars changing colors."

No one, it seems, wanted to be named as the story in the *Post* named no one. However, apparently reporter James Quinlan got information both from the Airport and the deputy sheriff's office, as he indicated that a police lieutenant verified the written report of the deputy who had seen the objects. The "objects" were seen in the western sky between 9:30 p.m. on the 12th and 12:30 a.m. on the 13th. All who viewed them said that the objects "flipped, whirled, and flashed their tiny lights." Mr. "Smith" said that when they accelerated they first turned like a ring and then the whitish color would turn yellowish and then all the other colors would be visible. He also said that after watching for a while he could predict by the color changing routine when the UFOs would rise in the clear sky. When they rose, he said, a red tail appeared at one end of the disc-shaped objects.

A day later, on the 14th of September still another UFO report was made in the West Palm Beach area. Calls began pouring into the sheriff's department at 4 a.m. describing the "bright light" over the Atlantic ocean. Early press reports were inaccurate, quoting C.J. Fox, supervisor of the FAA at Palm Beach International Airport as saying that radar had picked up a blip of something about 1,000 feet over the ocean. Fox was recorded as saying that two "106 Darts" had flown up from Homestead AFB to investigate, swept International Airport without landing and then went out to sea to see what they could find. He said they saw nothing except Venus shining brightly. The *Fort Lauderdale Sun* said that a sheriff's helicopter joined the search but without results.

Of prime interest in this report is Field Investigator Sandra Thomas's report of her interview with August Brown, 26, of Palm Springs, Florida who works at the control tower at the Palm Beach International Airport in West Palm Beach. He was on duty and personally viewed the UFO on Thursday morning at 4:25 a.m., September 14th.

Brown told Miss Thomas that the object was in sight except for occasional "dimouts" for 1½ hours. The dimouts never lasted more than five minutes and during the entire sighting the object was on radar constantly.

There were scattered clouds and Venus was visible as was the moon. The weather was dry. Brown described the color of the object as bright silvery and much brighter than any of the stars in the sky. He viewed the object through binoculars and said that it was an elongated oval in shape. Brown estimated the speed of the object to be about 150 knots (163 miles per hour), radar registered its altitude at between 9 and 10,000 feet, and its distance from 6 to 10 miles northeast of West Palm Beach.

Mr. Brown said he was by himself in the tower at the time of the sighting and the entire observation was made from the tower. He had not noticed the object, however, until he received a call from the West Palm Beach Sheriff's Department saying that they had received reports of a UFO in the area. Shortly thereafter he sighted the object and confirmed his sighting with the radar reports from the Homestead AFB.

Of added interest is the fact that an Eastern Airlines pilot and co-pilot, flying at an altitude of 8,000 feet flew directly beneath the object. The pilot reported the object and estimated the object to be at 15,000 feet altitude.

There appear to be some inconsistencies in this report; namely that the object was in view and registered on radar for an hour and a half, yet was travelling at 163 miles per hour. Mr. Brown did not elucidate which direction the object took so it could have been going away from him at that speed.

Mrs. Georgia Hazen and Mrs. Katherine Gould of West Palm Beach reported that they had heard an unexplainable sound sometime between 6:30 and 6:45 a.m., also on the 14th. Mrs. Gould had gone outside to get the newspaper from her driveway when she saw a white light which she first thought was the landing lights of an aircraft. She said she looked up to see one conventional aircraft pass overhead, then, upon hearing a loud noise, she turned around and watched another airborne object which she said was shaped like a "goose egg" and had a reddish hue around it. It was initially heading east and then turned south, accelerating as it flew. Both Mrs. Gould and Mrs. Hazel said that the

second object made a much louder noise than any jet airliner which they both are familiar with because they live a short distance from the Airport. They said that at first the object made a roaring noise, then one as if an aircraft were in some sort of trouble, an on and off sound such as that of an engine stalling. When it turned red it made a booming sound.

Both women agreed on the sound although Mrs. Gould was the only one to see the object.

Federal Aviation authorities later stated that what the women saw was probably one of the aircraft from Homestead Air Force Base as it cut in its afterburner to join up with its companion airplane. Because of the time element and the sound made by the object, this is a likely explanation for their sighting.

Another sighting, however, which took place on the 16th of September, is not as easily explained. Robert C. Burgun of West Palm Beach and his companion Mr. Dale Moree, both students at Florida State University, Tallahassee, were driving south from Tallahassee on the Sunshine Turnpike at 70 miles per hour when Burgun spotted a bright light in the sky due east of them. It was a luminous green in color but despite this Burgun first thought it to be merely a bright star. Then he noticed that it changed positions in relation to the stars as he drove along. The light turned white and the two men watched it for about 15 minutes before it disappeared behind morning clouds which were forming at approximately 5 a.m. Burgun watched for a similar light on the next two nights but saw none which would account for what he had seen.

Car Failure Case In Wisconsin

The following case is under investigation and if further details are forthcoming in the final report they will be published in a future issue.

At between 2 and 2:30 a.m. on the 22nd of August 1972, Greg V. Faltersack, 18, of Sussex in Waukesha County, Wisconsin, was returning home from his girl friend's house. He claimed that he was driving East on country road J-F and when he was halfway between country road F and 164 his power steering failed and the lights, radio and engine stopped. Fortunately his 1963 Plymouth was not equipped with power brakes and he was able to bring his car to a stop. When he got out of the car to see what was wrong he looked up and saw a large, circular orange object at about tree-top level (40 feet) which he later estimated to

(See Wisconsin - Page Eight)

Wisconsin

(Continued from Page Seven)

be about 20 to 30 feet in diameter. The object hovered momentarily, then moved straight up into the sky and out of sight. The total viewing time was approximately 7 seconds.

Faltersack got back into his car which started, but he had no lights. He managed to reach his sister's home in Sussex where he told her of his experience. The sister, Mrs. Leonora Hildabrand, called the Waukesha County sheriff's office and they went to the scene of the incident where the skid marks were found where Greg had brought his car to a halt. Deputies verified that all the fuses in Faltersack's car had blown out and that the car had overheated. Deputies also verified that Faltersack had not been drinking and seemed visibly shaken by the incident.

The initial reports in newspapers stated that Faltersack's radiator had boiled over, but APRO has since learned that he had had problems with overheating prior to the incident so that is not likely germane to the case.

Another Occupant Case

Field Investigator Louis Normandin of Canada has forwarded information concerning an alleged landing and occupant case which took place in August 1965. The man who told Normandin of the incident does not wish his name to be used and unfortunately he will not disclose the identity of the lady who was with him at the time. However, efforts will be made to locate and interview other possible witnesses.

No exact date is recalled except that the month was August and the time between 9 and 10 p.m. The gentleman and his lady friend were parked at the bottom of an underground water reservoir outside Ottawa, Ontario. After a period of time they saw an extremely bright light appear lighting up the whole area. They looked out the front window of the car and to the top of the reservoir and saw a glowing object in midair, very slowly coming down to the top of the reservoir. There appeared to be four search lights on the bottom of the object which seemed to be sitting approximately 15 to 20 feet above the reservoir. Shortly after the object had positioned itself, a sliding door opened on the object and he could see a figure in the doorway. This figure was followed by two more and they simply stood there. The witness does not recall a ramp or other means of access to the object, just the sliding door. He was too far away to make out any details

as far as the figures were concerned, except that they appeared dark and shiny. The lady he was with had begun to get hysterical and after 15 minutes (from the time the object was first seen) they drove out of the area.

Mr. Normandin has inspected the alleged landing area and found that there is a stone quarry next to the reservoir, and transmission lines about a half mile distant. At the time of the sighting there was only one road leading into the reservoir and the witness says that there were other cars parked in the area at the time of the sighting.

The witness is currently employed in the Ottawa area, has been with the Royal Air Force and also spent several years with the Canadian Broadcasting Corporation (television). Mr. Normandin considers him to be reliable.

Repeat Sightings In Canada

Newspapers in Ontario, Canada featured several articles in July and August dealing with alleged repeat sightings by Mrs. Donna Mercer of Campbell's Bay, Quebec. The following is a summarized account based on the investigations of Field Investigator Steve W. Raymond and William G. Cockburn who visited the Mercer home and interviewed Mrs. Mercer and her 12-year-old daughter.

The first sighting took place on the 18th of July. Mrs. Mercer was in bed at 12:28 a.m. when she sighted the object from her bedroom window. She said it appeared to be about the size of an orange at arm's length and was bright orange in color. She said she watched it for about 20 minutes while still in bed. At approximately 12:40 a.m. the object began to move slowly in a southeastern direction and she called her children in to see it. The children had been in the living room watching television at the time. They all then went outside to watch but when they got there the object had stopped moving. They continued to watch the motionless object until 1:45 a.m. when it moved off towards the southwest in an ascending flight and was lost to sight.

On the 20th the object was allegedly observed again but this time several neighbors and a Quebec Provincial Police officer were present. It was in sight for about one hour and was observed through binoculars. It appeared as a bright orange ball except for the upper third of it which was red. Mrs. Mercer claimed she saw some "extensions" from the object's bottom that could possibly be landing gear or jets of smoke or exhaust. While the object was being observed "it vanished" and all

of the electrical power in the town failed. About 15 minutes later the object allegedly reappeared and the power came back on. When the object began to blink on and off, so did the corner street light. One street light allegedly remained on through the entire incident.

Further observations were made on the evenings of the 19, 24, 25, 26, 27, 28, 29, 30 and 31st of July. The August sightings were made on the 1, 2, 4, 5, 8, and 10th.

Along with the report forwarded to APRO was a photo taken of the object described by Mrs. Mercer. In the foreground is the head and shoulders of Mrs. Mercer's father-in-law and above and over his left shoulder is a small round ball-shaped object with what appears to be clearly defined edges. It has been suggested that this object is Jupiter but amateur and professional astronomers alike would debate this because of the resolution obtained with color film and a flash.

UFOs Over Reservoir

At 7 a.m. on the 16th of September campers on the shores of the Alcova Reservoir near Casper, Wyoming witnessed a strange sight. The principal witness refuses to let his name be used but an attempt will be made to obtain his complete testimony as well as names of other witnesses.

Mr. X said that he heard an abrupt "whooshing" sound which he compared to the sound made when two cars pass each other at high speed going in opposite directions.

Several other nearby campers also heard this loud sound and commented on it. One thought it might have been a bird but this was discounted by the others because the sound was much too loud. Shortly thereafter, the sound was heard again. This time, Mr. X spotted four circular objects hovering over the reservoir at extremely high altitude (he estimated 20,000 feet).

As Mr. X and about 20 other campers watched the hovering objects, a fifth object darted in from the southeast and joined the formation. The entire formation then instantly accelerated to an extremely high speed and disappeared to the north. No further sounds were heard.

Family Reports UFOs

The Harold J. Whitcombs and others of their family have reported the appearance of unidentified objects in the sky over their home southeast of George-

(See Family - Page Nine)

Family

(Continued from Page Eight)

town, California. Field Investigator Frank Burchardt interviewed the Whitcombs but was unable to speak with Mr. and Mrs. Robert E. Gooch as they had returned to their home in Clarksburg after visiting Mrs. Gooch's parents, the Whitcombs. Also witnessing the presence of the objects were Virginia R. Hagen, Thomas Gooch, 16, and Mr. and Mrs. Don Whitcomb of South Lake Tahoe.

The Whitcombs were unable to furnish much detail except that sometimes the UFOs were oblong objects which sometimes stood on end and at other times laid on their sides in the sky. The objects also seemed to be shrouded in mist through which green, yellow and white lights were shining. No one would hazard a guess as to the distance the objects were from the observers but they did say that the hum of a motor could be heard. The witnesses said that the objects usually would show up at between 1:30 a.m. and 4 a.m., hover awhile, move from side to side and later disappear quickly. On one occasion a "spotlight or searchlight" lit up the meadow and even the inside of the house through the window.

Science Experiments For The 1975 Viking Mars Mission

by Dr. John S. Derr

Dr. Derr is in Viking Mission Design in the Space Sciences Department at the Martin Marietta Corporation, Denver. He is APRO Consultant in Seismology.

In 1975, the United States will launch two identical spacecraft for further exploration of Mars. Like the 1971 Mariner mission, Viking will have orbiters with TV cameras and infrared instruments for thermal mapping and water vapor detection. The great departure of the Viking program, however, is that each spacecraft will have an entry capsule with a soft lander. Depending on the unknown intentions and possible successes of Russian Mars mission, we hope that the Vikings will be the first scientifically successful planetary soft landers. The first lander is scheduled to touch down on July 4, 1976.

Of particular interest to exobiologists, the Viking landers will be our first attempt to analyze directly *in situ* a non-terrestrial soil sample for living organisms. Other experiments in the lander include

organic chemical analysis of the soil and atmosphere, color stereo imaging of the landing site, basic meteorology, recording of Marsquakes, magnetic properties of the soil, physical properties of the soil such as cohesion and bearing strength, and inorganic chemical analysis to determine mineralogy of the soil. During entry, various measurements will be made to help reconstruct the composition and structural profile of the atmosphere. In addition, the radio telemetry signals and landing radars will be used to construct atmospheric profiles and to measure the figure of Mars. Tracking of the radio signals will also help improve our knowledge of the exact location of Mars and its satellites and to determine the distribution of mass in the planet.

The current Mariner mission has already set the stage for the Viking landers. Extensive orbiter imaging has almost completely mapped the equatorial regions. Infrared and ultraviolet measurements of the thin atmosphere have helped to confirm its composition as being principally CO₂, with some water as ice in the polar caps. The same measurements help in deducing the topography of the surface, as do earth-based radar experiments. Extensive analysis of these data will continue through the Viking mission, but we already know that Mars is a dynamic and varied planet. The surface atmospheric pressure is less than 1% of that on earth, but sufficient to allow seasonal dust storms. The surface shows distinct signs of past water erosion, but no significant quantities of water exist at present. What appears to be an extensive rift valley runs near the equator for several thousand kilometers, indicating possible extensive tectonic activity. There are several large volcanic calderas, the largest (Nix Olympica) being twice the size of Hawaii. And the planet is solid, with density increasing with depth, and no holes at the poles.

The orbiter experiments are designed to support the lander, as well as performing their own science tasks. Three optical instruments are mounted on the same platform so as to view the same area on Mars. They are the two high resolution cameras, the infrared atmospheric water detector, and the infrared thermal mapper. Before the lander is separated from the orbiter, these instruments will survey several possible landing sites to help decide which ones are the most interesting. Various scientists have suggested that the best sites for possible life detection are those which are "low, warm, and wet." After the landing, the orbiter cameras will be used to map the landing site in an attempt to locate the exact position of the lander. This will require correlation of the lander camera panorama with the orbiter imaging, because the latter has a resolution of only 25 meters.

The atmospheric water detector will be used to find sites with the highest concentration of water vapor in the "air" above them. It works by using an infrared spectrometer to measure the spectrum of light scattered by the atmosphere. In particular, it measures the intensity of the water vapor spectral line at a wavelength of 1.4 microns. The thermal upper is an infrared radiometer sensitive to the wavelength region above 6 microns. By measuring surface temperature at night on Mars, it will show which areas are warmest and presumably most conducive to life support.

Both orbiter and lander experiment sequences are designed to be updated by ground command to allow maximum science return through adaptability and flexibility. Present plans call for the orbiter to remain in synchronous orbits over the landers to receive UHF transmission and relay data on X band back to earth. However, later in the mission when most experiments are finished, the orbiters may be programmed to change orbits to allow imaging and water vapor mapping of other areas on the planet, while the landers transmit on S band at a much lower bit rate directly to earth.

While the landers are descending to the surface, using a succession of aeroshell, parachute, and rocket deceleration to effect a soft touchdown, several instruments will measure the composition, pressure, temperature, and density of the atmosphere. Starting at a very high altitude, a retarding potential analyzer will give data on charged particles which will help us to understand the interaction of the solar wind with the Mars exosphere. As the lander descends through 800,000 ft. altitude, a neutral mass spectrometer will start to measure the composition of the atmosphere, and pressure and temperature measurements will be taken about once per second. In addition, the inertial guidance accelerometers and radar altimeters will give information which can be interpreted in terms of atmospheric density and wind velocity. This information, combined with the landers' molecular analysis of the atmosphere and the meteorology experiments, should give us a very good model of the Mars atmosphere. Future Mars landing missions will have much less atmospheric uncertainty for designers to contend with, allowing increased payloads to be delivered to the surface.

The lander imaging experiment is basically designed for geology, but supports almost all the other experiments, too. The cameras, located on fixed masts on one side of the lander, are capable of imaging a 360° panorama from the footpads to 40° above the horizon, giving stereo, color, infrared, or high resolution

(See Viking - Page Ten)

Viking

(Continued from Page Nine)

pictures. Because they are facsimile cameras, scanning one vertical line at a time with a nodding mirror and focusing that traveling spot onto only one sensor, they are useful only for still shots. Anything moving through the field of view would appear as only a few blurred spots in the picture where the scan happened to catch it. Scientifically, the cameras are used to characterize the landing site geologically, in terms of soil and rock characteristics and land forms, look for macroscopic evidence of life such as plants, locate specimens for biological and organic analysis, observe footpad penetration and soil structure revealed as the surface sampler digs trenches, observe any trench filling from wind-blown dust, observe particles attracted to the magnets, and select rock samples for the inorganic analysis experiment.

The biology experiment will analyze three different samples using three different techniques to detect metabolism and growth, based on our understanding of how terrestrial micro-organisms function. They are basic enough that they should detect any growth of life based on carbon and water, and are both specific and sensitive. The pyrolytic release experiment tests for photosynthesis or dark fixation of CO or CO₂ using radioactive ¹⁴C as a tracer; conditions are maintained similar to Mars ambient. The labeled release experiment provides a dilute aqueous sample medium for growth of microorganisms, also using radioactive ¹⁴C in a substrate as a tracer. The light scattering experiment uses only distilled water as a growth medium; changes in the turbidity of the water indicate growth. A portion of each sample is retained so that, in case of a positive response to any experiment, a control can be run by analyzing the remaining sample after it has been heat sterilized.

The molecular analysis investigation is designed to analyze both atmosphere and soil. The instrument is a combination gas chromatograph and mass spectrometer which requires that the samples be gaseous. Therefore, soil is heated in an oven to volatilize the organic compounds. The volatile gases, either atmospheric or soil-generated, are separated by the gas chromatography and analyzed by the mass spectrometer. Once the individual components are identified, the nature of the original compound can be deduced, and the data used to support the biology investigation.

The meteorology experiment consists of pressure, temperature, and wind direction and velocity sensors, giving much the same information as a typical weather station on earth. Measurements will be taken periodically throughout the day. This information should help us to better

understand the dynamics of the atmosphere, including how dust storms are generated.

The seismology experiment consists of a short-period, three axis seismometer. Most of the time, they will operate in a low data rate mode which records average noise levels. When sensing a seismic signal, however, they automatically trigger into a high data rate mode for the duration of the signal. Alternatively, they can be commanded to sample the seismic background noise in the high data rate mode. Information on the intensity and frequency spectrum of background noise is necessary for designing future, more detailed seismic experiments, whereas recording of Marsquakes — especially by both landers' seismometers — will give information on the current tectonic activity of Mars, its internal structure, thermal history, state of differentiation, and existence and size of any core.

The magnetic properties experiment consists of a small array of magnets on the surface sampler boom which is brought into contact with the soil and then viewed by the camera. The ferromagnetic properties of the particles clinging to the magnets can be inferred from the varying strengths and geometries of the magnet arrays.

The physical properties experiment is a series of procedures designed to infer various properties of the surface by measuring footpad penetration and surface sampler motor power required to dig, and by imaging trenches dug into the surface. These measurements will allow estimates to be made of the bearing strength, cohesion, angle of internal friction, porosity, grain size, adhesion, thermal inertia, dielectric constants, and homogeneity.

The radio science investigation uses no scientific instrument of its own. Further, it uses the various X and S band and UHF telemetry links to measure the structure and properties of the atmosphere and figure of the planet by radio occultation. Precise tracking of the orbiters allows significant improvements in our knowledge of the precise location of the planet and in its internal distribution of mass. This data will also set the stage for future general relativity experiments. In addition, the landing radar can be used to measure the surface roughness in an area around the landing site.

The latest, and probably last, addition to the Viking science payload is the inorganic chemical investigation. This experiment uses an X-ray fluorescence spectrometer to measure quantitatively the chemical composition of the soil. Two radioactive isotope sources — ⁵⁵Fe and ¹⁰⁹Cd — decay by producing monochromatic X-rays. These are absorbed by the soil, causing the generation of fluorescent X-rays whose energy is characteristic of the chemical composition. This information should be suffi-

cient to define the mineralogy of the soil.

Some changes may still be made in the science payload in order to keep the program cost within the \$800 million budget. In particular, the exact status of the meteorology sensors is still undecided. Nevertheless, plans are already being made for follow-on missions in 1979 and 1981, the former with more sophisticated biology and geology-geochemistry experiments, the latter with perhaps a tethered rover to collect samples from a wider area. Mankind is committed to beginning exploration of the Solar System in this decade, and Mars, after the Moon, is the first step on the way to exploring the planets, a course which ultimately will increase our understanding of our own planet in relation to the Universe.

Back Bulletins Available

APRO has a stock of back bulletins which are available to members and subscribers at 50 cents each, postpaid, as per the following list:

- 1958 — Jul.,
- 1959 — Mar., Jul.
- 1960 — Jul., Sep., Nov.
- 1961 — Jan., Mar., May, Jul., Sep., Nov.
- 1962 — Jan., Mar., May, Jul, Sep., Nov.
- 1963 — Jan., Mar., May, Jul., Sep., Nov.
- 1964 — Jan., March.
- 1967 — Nov., Dec.
- 1968 — Mar., Apr., May-Jun., Jul.-Aug., Sep.-Oct., Nov.-Dec.
- 1969 — Jan.-Feb., Mar.-Apr., May-Jun., Jul.-Aug.
- 1970 — May-Jun., Nov.-Dec.
- 1971 — Jan.-Feb., Mar.-Apr., May-Jun., Jul.-Aug., Nov.-Dec.
- 1972 — Jan.-Feb., Mar.-Apr., May-Jun., Jul.-Aug.

When ordering, be sure to indicate exactly which bulletins are required. Send remittance for the correct amount and print name and address clearly.

BULLETIN RATES

APRO Membership including Bulletin:
 U.S., Canada & Mexico . . . \$6.00 yr.
 All other countries \$7.00 yr.
 Subscription to Bulletin only:
 U.S. Canada & Mexico . . . \$6.00 yr.
 All other countries \$7.00 yr.

ADDRESS CHANGES

Always include old and new
 Zip Codes.

Press Reports

August 16, 17, Stebbins, Alaska. Soil, grass and water samples from a site near St. Michael on Norton Sound were being tested by the Army Corps of Engineers as a result of a UFO landing there. On the 17th Eskimo Scout Sgt. John Cheemuk and his wife claimed that they saw a large, elongated object shaped like a football with a cockpit, a large window and red lights at front and rear flying slower than an airplane. They watched it land and take off about five minutes later. This was at the St. Michael location. On the 16th about 20 residents at Stebbins claimed they had seen something unusual in the skies (no further data on this incident). Two of the observers were Eskimo Scout Sgt. Pius Mike and Gabriel Bighead. After the sighting Mike filed a report with the Guard's 1st Scout Battalion headquarters in Nome and Army Capt. Tom Williams flew to the area. Williams said that the spot where the object had allegedly landed showed a hole three feet in diameter and about 2 inches deep. He said there was burned grass at the bottom of the hole and he said he had an "eerie feeling" when he left the site after taking photographs and samples.

August 11, 1972, Portland, Oregon. Two separate groups of people reported seeing a UFO with "lights around the sides" for a half hour before it disappeared over the hills west of Portland. Terry Bowlby, 19, said it looked "like something at a carnival". She said that she and Donna Parker, 19, and Karen Parker, 14, were in a car when they sighted the object which they said had "a slow movement and appeared to be moving about the speed of a car." Rick Young and his wife, Margo, and Bob and Mary Gourde and Bill Ziemer also reported the object which they said flew around the radio and TV towers on the west hills and under an airplane before disappearing. "It was round", said Young, "and seemed to have about 30 lights around the outside and one light in the middle, all white lights, no red, and it appeared to be revolving around the center." He also said that it looked "just like that space ship in the TV series, 'Lost in Space'."

August 20, 1972, Reading, Pa. Late Sunday night city police received a report of an illuminated object hovering in the sky above Mt. Penn. Patrolmen responded to the call, thinking it would be a hoax or misinterpretation of a conventional object but when they got out of their patrol car on S. 16th street they could see the object which seemingly hovered several thousand feet above the mountain. They claimed the object was oval and changed colors from white to red to bluish green. After viewing it they called City Hall and asked for someone to proceed to the location and were shortly joined by a

sargeant who immediately contacted the tower at Reading Municipal Airport. Tower personnel there had a simple answer: it was merely a bright star. Moments after receiving the tower's report, at around 1 a.m. on the 21st, police at the scene said that the object shot upward and out of sight.

September 13, 1972, Taree, N.S.W. (New South Wales), Australia. At 7:30 a.m. on this date sky-watchers in Taree picked up an unidentified flying object through binoculars and telescopes. For nearly a month watching for the strange object had become almost a daily routine with the men at the PMG lines depot there. Twelve hours earlier a similar object had been seen near Yamba, a northern coastal town, which precipitated a police search. Duty foreman Mr. Ernie Dwyer said that he and his men were convinced that the object was a craft from outer space. However, the object appeared to be very high in the sky. A light plane sent up with specially equipped cameramen on board reported failure to photograph it. A visitor to Taree used high powered binoculars and reported that the object was bubble-shaped, red on the bottom and white or silver at the top.

September 14, 1972, Sydney, Australia. More than 300 Sydney residents turned out at dawn to look at a mysterious shimmering spot in the sky which has baffled experts and shows up at precisely 10 minutes past 7 a.m. It was described as red on the bottom and white on top, like the object seen at Taree. Officials were unable to identify the object which, when seen through binoculars from Sydney appeared to have a cigar shape. An Air Force spokesman ruled out the possibility that the object could have been a weather balloon or satellite.

September 19, 1972, Melbourne, Australia. A brilliant mystery light has shown up over Broadmeadows (a Melbourne suburb) two nights in a row. It was first sighted and photographed by "Age" photographer Ray Jamieson near Broadmeadows North about 10:10 p.m. on the 19th. On the following night at 10:30 four people saw the light and watched it for 15 minutes. It was in the east and stationary, not moving fast, as was the object photographed by Jamieson. Mr. Keith Thomas, Secretary General of the Astronautical Society of Australia said the object could have been a "bit of space rubbish burning up in the atmosphere" although he did agree the bright light being emitted by the object would not "normally tally" with the space rubbish theory. The photos published in the Melbourne "Age" showed a light trail which made a triangular pattern, seven loop-the-loops in less than three seconds and a final blaze of color before it disappeared behind hills. It gave off so much light that it was possible to count the trees. Jamieson had been photo-

graphing football training earlier and used the same exposure, 1/1000 of a second for his first picture. The camera was a Nikon 35 mm with a 300 mm telephoto lens. The other three pictures, which showed the object moving, were time exposures with full aperture, the camera resting on the roof of his car. The color of the object was described as "light colored with a purplish fringe." It appeared to be 500 to 1000 feet above the ground and no sound was heard nor vibration felt. Top aviation, RAAF and meteorology experts were completely baffled by the photos.

September 24, 1972, Richardson, Texas. Mrs. Ollie Erwin claims that on this date her son was chased home by a red star-like object with a haze around it. Her daughter and some of her son Billy's friends also have observed the object. Their descriptions differ somewhat but all agree that the thing actually follows Billy Erwin. According to the witnesses the object is predominantly white with glittering red lights visible when it comes in close.

September 25, 28, 1972, Broomehill, Australia. For four mornings a strange light in the sky has intrigued and frightened people in the township of Broomehill, which is 188 miles southeast of Perth. At 4 a.m. on the 25th, the Webb family was awakened by the dog barking and went outside and saw the light above trees west of the town. "It moved up and down and from side to side and when lights began shooting out of it we went back inside," said Mrs. M. Webb. The Government Astronomer, Mr. B.J. Harris said that from the reported location it did not seem as though the light was Venus or Saturn.

September 29, 1972, Hanoi, North Vietnam. A mysterious and unidentified object appeared in the clear blue sky over Hanoi attracting missile fire from the ground but apparently remaining motionless. Jean Thoraval, Hanoi correspondent for the Washington Post, Los Angeles Times and France-Presse, said that even with the aid of binoculars the object was spherical in shape and luminous orange in color and obviously at very high altitude. The object's presence triggered an air-raid but it did not move and three surface-to-air missiles were launched. Their vapor trails could be seen converging on a luminous point which at first sight seemed to have been a parachute. Ms. Thoraval said that she was watching from the balcony of the Agence France-Presse office and noted that the object remained almost motionless and the missiles apparently were not able to reach it, suggesting that it was at very high altitude. An hour and 20 minutes after the alert sounded the orange ball was still visible from the ground but appeared to be less bright than when first spotted. News stories did not mention whether or not the object was picked up on radar.